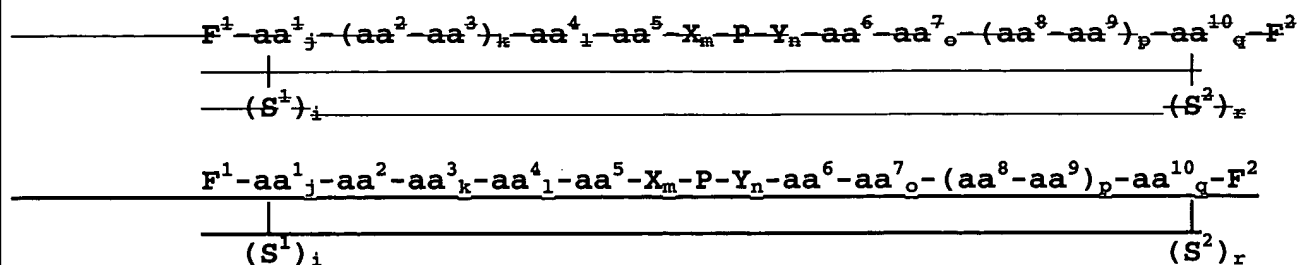


AMENDMENTS TO THE CLAIMS

Claim 1 (Previously presented): A fluorogenic composition for the detection of the activity of a protease, said composition having the formula:



wherein, P has the sequence ~~Leu-Glu-His-Asp-Gly-Ile-Nlu~~ Leu-Glu-His-Asp-Gly-Ile-Asn (SEQ ID NO:212);

F¹ and F² are fluorophores and F¹ is attached to the amino terminal amino acid and F² is attached to the carboxyl terminal amino acid;

S¹ and S², when present, are peptide spacers ranging in length from 1 to about 50 amino acids and S¹, when present, is attached to the amino terminal amino acid and S², when present, is attached to the carboxyl terminal amino acid;

i, j, k, l, m, n, o, p, q, and r are independently 0 or 1;

aa¹ and aa¹⁰ are independently selected from the group consisting of lysine, ornithine and cysteine;

aa² and aa³ are independently selected from the group consisting of Asp, Glu, Lys, Ornithine, Arg, Citulline, homocitrulline, Ser, Pro, homoserine, Aib, Thr, and Tyr;

aa⁸ and aa⁹ are independently selected from the group consisting of Asp, Glu, Lys, Ornithine, Arg, Citulline, homocitrulline, Ser, homoserine, Thr, and Tyr;

aa⁵, aa⁴, aa⁶, and aa⁷ are independently selected from the group consisting of proline, 3,4-dehydropyrolidine, hydroxyproline, alpha aminoisobutyric acid and N-methyl alanine;

X is selected from the group consisting of Gly, βAla, γAbu, Gly-Gly, Ahx, C7, βAla-Gly, βAla-βAla, γAbu-Gly, βAla-γAbu, Gly-Gly-Gly, γAbu-γAbu, Ahx-Gly, βAla-Gly-Gly,

Ahx- β Ala, β Ala- β Ala-Gly, Gly-Gly-Gly-Gly (SEQ ID NO:223), Ahx- γ Abu, β Ala- β Ala- β Ala, γ Abu- β Ala-Gly, γ Abu- γ Abu-Gly, Ahx-Ahx, γ Abu- γ Abu- β Ala, and Ahx-Ahx-Gly;

Y is selected from the group consisting of Gly, β Ala, γ Abu, Gly-Gly, Ahx, C7, Gly- β Ala, β Ala- β Ala, Gly- γ Abu, γ Abu- β Ala, Gly-Gly-Gly, γ Abu- γ Abu, Gly-Ahx, Gly-Gly- β Ala, β Ala-Ahx, Gly- β Ala- β Ala, Gly-Gly-Gly-Gly (SEQ ID NO:223), γ Abu-Ahx, β Ala- β Ala- β Ala, Gly- β Ala- γ Abu, Gly- γ Abu- γ Abu, Ahx-Ahx, β Ala- γ Abu- γ Abu, and Gly-Ahx-Ahx;

when i is 1, S¹ is joined to aa¹ by a peptide bond through a terminal alpha amino group of aa¹; and when r is 1, S² is joined to aa¹⁰ by a peptide bond through a terminal alpha carboxyl group of aa¹⁰.

Claim 2 (Original): The composition of claim 1, wherein the carboxyl terminal amino acid in which the carboxylic acid group is replaced with an amide.

Claim 3 (Original): The composition of claim 1, wherein

r is zero; and

aa¹⁰ has a C-terminal amide group or free carboxylic acid group.

Claim 4 (Currently Amended): The composition of claim 1, having the amino acid sequence

~~Lys Asp Pro Ahx Gly Leu Glu His Asp Gly Ile Nlu Gly Ahx Pro Lys Gly Tyr~~ Lys-Asp-Pro-Ahx-Gly-Leu-Glu-His-Asp-Gly-Ile-Asn-Gly-Ahx-Pro-Lys-Gly-Tyr (SEQ ID NO:248).

Claim 5 (Original): The composition of claim 1, wherein F¹ and F² are the same fluorophore.

Claim 6 (Currently Amended) : The composition of claim 5, wherein said F¹ and F² have an excitation wavelength in the range of 315 nm to ~~700~~ 750 nm.

Claim 7 (Original): The composition of claim 1, wherein the F¹ molecule is attached through either an α -amino group of the aa¹ amino acid or through a side chain amino group of the aa¹ amino acid, or through a sulfhydryl group of a side chain of the aa¹ amino acid.

Claim 8 (Original): The composition of claim 1, wherein the F² molecule is attached either through a side chain amino group of the aa¹⁰ amino acid, through a carboxyl group of the aa¹⁰ amino acid, or through a sulfhydryl group of a side chain of the aa¹⁰ amino acid.

Claim 9 (Currently Amended): The composition of claim 1, wherein said fluorophore is selected from the group consisting of rhodamine X, 9-(2,5 (or 2,6)-dicarboxyphenyl)-3,6-bis(dimethylamino)xanthyliumhalide or other anion (TMR), 9-(2,5)-dicarboxyphenyl)-2,7-dimethyl-3,6-bis(ethylamino)xanthylium halide or other anion (Rh6G), 9-(2,6)-dicarboxyphenyl)-2,7-dimethyl-3,6-bis(ethylamino)xanthylium halide or other anion, 9-(2,5 (or 2,6)-dicarboxyphenyl)-3,6-bisamino-xanthylium halide or other anion (Rh110), 9-(2,5 (or 2,6)-dicarboxyphenyl)-3-amino-6-hydroxy-xanthylium halide or other anion (Blue Rh), carboxytetramethylrhodamine, carboxyrhodamine-X , diethylaminocoumarin, 9-(2,5-dicarboxyphenyl)-3,6-bis-(dimethylamino)xanthylium chloride (5-TMR), 9-(2,6-dicarboxyphenyl)-3,6-bis-(dimethylamino)xanthylium chloride (6-TMR), 9-(2-carboxyphenyl)-2,7-dimethyl-3,6-bis(ethylamino)xanthylium, 9-(2-carboxyphenyl)-3,6-bis(dimethylamino)xanthylium, and 9-(2-carboxyphenyl)-xanthylium, and carbocyanine dyes.

Claim 10 (Original): The composition of claim 1, wherein said composition bears a hydrophobic group.

Claim 11 (Original): The composition of claim 4, wherein said composition bears a hydrophobic group.

Claim 12 (Currently Amended): The composition of claim 11, wherein said hydrophobic group is selected from the group consisting of: Fmoc, 9-fluoreneacetyl group (Fa), 1-fluorene-carboxylic group, 9-fluorene-carboxylic group, and 9-fluorenone-1-carboxylic group, benzyloxycarbonyl, Xanthyl (Xan), Trityl (Trt), 4-methyltrityl (Mtt), 4-methoxytrityl (Mmt), 4-methoxy-2,3,6-trimethyl-benzenesulphonyl (Mtr), Mesitylene-2-sulphonyl (Mts), 4,4'-dimethoxybenzhydryl (Mbh), Tosyl (Tos), 2,2,5,7,8-pentamethyl chroman-6-sulphonyl (Pmc), 4-methylbenzyl (MeBzl), 4-methoxybenzyl (MeOBzl), Benzyloxy (BzlO), Benzyl (Bzl), Benzoyl (Bz), 3-nitro-2-pyridinesulphenyl (Npys), 1-(4,4-dimethyl-2,6-dioxocyclohexylidene)ethyl (Dde), 2,6-dichlorobenzyl (2,6-DiCl-Bzl), 2-chlorobenzyloxycarbonyl (2-Cl-Z), 2-bromobenzyloxycarbonyl (2-Br-Z), Benzyloxymethyl (Bom), t-butoxycarbonyl (Boc),

cyclohexyloxy (cHxO), t-butoxymethyl (Bum), t-butoxy (tBuO), t-Butyl (tBu), Acetyl (Ac), and Trifluoroacetyl (TFA).

Claim 13 (Original): The composition of claim 12, wherein said hydrophobic group is Fmoc.

Claim 14 (Original): The composition of claim 12, wherein said hydrophobic group is Fa.

Claim 15 (Original): The composition of claim 12, wherein said hydrophobic group is attached to the amino terminus of the molecule.

Claims 16-26 (Canceled).